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10/725,359

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Carlambrogio Bianchi

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EXAMINER

DUONG, THO V

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The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* CARLAMBROGIO BIANCHI, MASSIMILIANO TONIN, and  
DAVIDE BAIO

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Appeal 2009-001543  
Application 10/725,359  
Technology Center 3700

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Decided:<sup>1</sup> July 20, 2009

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Before: JENNIFER D. BAHR, STEVEN D.A. McCARTHY, and STEFAN  
STAICOVICI, *Administrative Patent Judges*.

BAHR, *Administrative Patent Judge*.

DECISION ON APPEAL

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<sup>1</sup> The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

## STATEMENT OF THE CASE

Carlambrogio Bianchi et al. (Appellants) appeal under 35 U.S.C. § 134 from the Examiner's decision rejecting claims 1-4, 6, 9, 10, 13-17, and 20-25. Claims 5, 7, 8, 11, 12, 18, and 19 have been canceled. We have jurisdiction over this appeal under 35 U.S.C. § 6 (2002).

### *The Invention*

Appellants' claimed invention is directed to a heating and cooling unit. Abstract. Within air duct 250, one or more fans 252 blow air through coil 200. *See* Specification 4:17-19, fig. 2. One or more vertical fins 208 in coil 200 direct air perpendicularly to the surface of bent coil 200. Specification 3:22-26, fig. 4. Because the coil 200 is bent, the air flowing through vertical fins 208 in coil 200 is directed in both longitudinal and lateral directions. *Id.*

Claims 1 and 2, reproduced below, are illustrative of the claimed invention.

1. An apparatus for a ducted heating and cooling unit, comprising:

    a bent coil having a coil surface through which outlet air is discharged in a first direction and a second direction different than the first direction;

    at least one substantially vertical fin disposed in the bent coil, wherein said at least one substantially vertical fin directs the outlet air substantially perpendicular to the coil surface to enable dividing of the outlet air in the first direction and the second direction; and

    at least two fans moving unconditioned air towards the bent coil.

2. The apparatus of claim 1, wherein the first direction of the outlet air is longitudinal and the second direction of the outlet air is at an angle with respect to the first direction.

### *The Rejections*

The Examiner has relied on the following evidence:

Nagakura	US 5,174,366	Dec. 29, 1992
Vandervaart	US 5,189,887	Mar. 2, 1993
Sullivan	US 5,195,332	Mar. 23, 1993
Martin, Sr.	US 5,284,027	Feb. 8, 1994
Ikeya	US 5,482,115	Jan. 9, 1996

Appellants seek review of the Examiner's rejection under 35 U.S.C. § 103(a) of claims 1-4, 6, 9, 10, 13-17, 24, and 25 as unpatentable over Martin and Sullivan; claims 20 and 21 as unpatentable over Martin, Sullivan, and Ikeya or Nagakura; and claims 22 and 23 as unpatentable over Martin, Sullivan, and Vandervaart.

### SUMMARY OF DECISION

We AFFIRM.

### ISSUES

Appellants argue claims 1, 3, 4, 6, 9, 10, 13-17, 24, and 25 as a group. App. Br. 3-5. Claims 1 and 6 are representative of the group. *See* 37 C.F.R. § 41.37(c)(1)(vii). Appellants do not present any arguments attacking the rejection of claims 20 and 21 or the rejection of claims 22 and 23 separate from Appellants' contentions attacking the rejection of claims 1, 3, 4, 6, 9, 10, 13-17, 24, and 25. App. Br. 6-7. Therefore, resolving the issues raised

in connection with the rejection of claims 1 and 6 also resolves any issues raised in connection with the rejections of claims 20, 21, 22 and 23.

Appellants separately argue claim 2. App. Br. 5-6.

The issues presented in this appeal are:

- (1) With respect to independent claims 1 and 6, have Appellants demonstrated that the Examiner failed to articulate a reason with rational underpinning for substituting the single fan described in Martin with multiple fans, as described by Sullivan? App. Br. 3-5, Reply Br. 1-2, Ans. 6-7.
- (2) With respect to claim 2, have Appellants demonstrated that the Examiner failed to address the limitation requiring that the outlet air is directed in a longitudinal direction and in a direction at an angle to the longitudinal direction? App. Br. 5-6, Reply Br. 2-3, Ans. 7.

## FACTS PERTINENT TO THE ISSUES

### (FINDINGS-OF-FACT (FF))

- FF1 Martin describes an air conditioning apparatus. Col. 2, ll. 66-67. In the air conditioning apparatus, a blower fan 12 pushes air through a coil 24 (120 in fig. 3) that treats the air. Col. 6, ll. 51-56, figs. 2, 3.
- FF2 Martin's coil 24 or 120 contains vertical vanes 26 or 104 that redirect the air substantially perpendicular to the surface of coil 24 or 120. *See* Col. 7, ll. 9-12, figs. 2, 3.
- FF3 The Examiner found that Martin fails to explicitly describe two fans blowing air over the coil. Ans. 4.
- FF4 Sullivan describes an air conditioning unit that utilizes two rotating fans 15 to blow air through coil 12. Col. 3, l. 63 - col. 4, l. 5, fig. 1.

- FF5 Appellants admit that the use of two fans blowing air over a coil is prior art. Fig. 1, noting fans 102 and the label "PRIOR ART."
- FF6 The air blown through coil 24 or 120 in Martin is directed by vanes 26 or 104 in a longitudinal direction and perpendicular to the surface of coil 24 or 120 at an angle to the longitudinal direction, as depicted by the arrows showing the air flowing from coil 24 or 120 to openings 18 or 106. Col. 4, ll. 15-22, col. 7, ll. 9-12, fig. 3, *see also* col. 6, ll. 58-61, fig. 2.

### PRINCIPLES OF LAW

In obviousness determinations, all of the features of the secondary reference need not be bodily incorporated into the primary reference. *See In re Keller*, 642 F.2d 413, 425 (CCPA 1981). Moreover, the artisan is not compelled to blindly follow the teaching of one prior art reference over the other without the exercise of independent judgment. *See Lear Siegler, Inc. v. Aeroquip Corp.*, 733 F.2d 881, 889 (Fed. Cir. 1984).

### ANALYSIS

#### *Issue (1) - Obviousness of claims 1, 3, 4, 6, 9, 10, 13-17, and 20-25*

The Examiner found that Martin describes a fan that blows air through a coil (FF1) in different directions based on the angle of vanes within the coil (FF2). Ans. 3-4. The Examiner found that Martin fails to explicitly describe two fans. Ans. 4, FF3. However, the Examiner found that both Sullivan (Ans. 4, FF4) and Appellants' admitted prior art (Ans. 6, FF5) describe two fans blowing air through a coil. Therefore, the Examiner reasons that it would have been obvious to combine the teachings of Martin

and Sullivan in order to increase the airflow through the coils by substituting duplicate fans, each performing the same function performed by the single fan expressly disclosed by Martin in essentially the same way while providing no unpredictable result. Ans. 4.

Appellants argue that it would not be obvious to employ the particular fans described in Sullivan and Martin. App. Br. 4-5, Reply Br. 1-2. The Examiner responds that the particular fans described in Sullivan were not combined with Martin, but that the teaching in Sullivan of the use of a particular *number* of fans was used to show that the use of multiple fans was known in the art. Ans. 7. Therefore, Appellants' argument is directed to a combination not made by the Examiner and cannot be found persuasive.

The Examiner has made a prima facie case of obviousness, finding that (1) Martin describes all elements of claims 1 and 6 except for the number of fans used (FF1, FF2, FF3); (2) the use of duplicate fans was well-known in the art (FF4, FF5); and (3) more fans predictably produce more airflow (Ans. 4). Appellants have not challenged any aspect of the Examiner's prima facie case of obviousness.

*Issue (2) - Obviousness of claim 2*

The Examiner found that Martin describes the outlet air traveling through the coil in both a longitudinal direction and at an angle to the longitudinal direction. Ans. 4, 7, FF6. Appellants argue that, in claims 1 and 6, the *coil* directs the angles of the outlet air, while in Martin, duct outlets 108 (108 in fig. 3, 28 in fig. 2) direct the angles of the outlet air. App. Br. 6, Reply Br. 2.

As is immediately apparent in figs. 2 and 3 of Martin, the coil 24 or 120 directs the air in three directions, as depicted by the arrows. FF6. Some

arrows go straight ahead (longitudinally), while other arrows divert left or right, making them at an angle from the longitudinal arrows. *Id.* As the Examiner points out, the angled and non-angled air is collected by the various duct outlets. Ans. 4, 7. The Examiner is merely noting that the air is collected at these ducts *after the air is directed by the coil*. Because Martin clearly depicts air directed by the coil in both longitudinal and non-longitudinal directions, Appellants' argument is not persuasive.

### CONCLUSION

Appellants' arguments are not persuasive that the Examiner has erred in rejecting claims 1, 2, and 6 as unpatentable under 35 U.S.C. § 103(a) over Martin in view of Sullivan. Appellants do not present any separate arguments against the rejections of claims 3, 4, 9, 10, 13-17, and 20-25. For the reasons discussed above, Appellants' arguments against the rejection of claims 1, 2, and 6 are likewise unpersuasive with respect to the rejections of claims 3, 4, 9, 10, 13-17, 24 and 25 as being unpatentable over Martin in view of Sullivan; claims 20 and 21 as being unpatentable over Martin, Sullivan, and Ikeya or Nagakura; and claims 22 and 23 as being unpatentable over Martin, Sullivan, and Vandervaat.

### DECISION

The Examiner's decision is affirmed as to claims 1-4, 6, 9, 10, 13-17, and 20-25.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2007).



Appeal 2009-001543  
Application 10/725,359

AFFIRMED

mls

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